

ANNEX  
BETWEEN  
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
GLENN RESEARCH CENTER "NASA"  
AND OHIO DEPARTMENT OF TRANSPORTATION "ODOT"  
UNDER SPACE ACT UMBRELLA AGREEMENT  
NO. SAA3-34682, DATED 5/7/2021 (ANNEX NUMBER 05).

ARTICLE 1. PURPOSE

This Annex shall be for the purpose of allowing both Parties to share information on research plans, capabilities, and flight test results in the area of communications for Advanced Air Mobility (AAM) operations. NASA researchers will be given access to AAM-related flight test information in the state of Ohio, which will benefit NASA's Air Traffic Management eXploration (ATM-X) project. Likewise, ODOT personnel will be given access to NASA's research and flight test planning activities, as well as the results of upcoming AAM communications flight test activities, which will benefit ODOT's efforts in this area. In addition, both Parties will receive the opportunity to discuss future collaborations that may involve joint flight testing of candidate technologies, the sharing of flight test assets, or access to airspace that has been made available for testing by ODOT. The intended result of this Annex is to improve information sharing between both Parties and to identify opportunities for future research and flight test activities that may best utilize the assets and abilities of both Parties, which will be mutually beneficial.

ARTICLE 2. RESPONSIBILITIES

A. NASA will use reasonable efforts to:

1. Attend and participate in periodic technical interchange meetings.
2. Share ATM-X Communications, Navigation, and Surveillance (CNS) flight test results.
3. Discuss potential future collaborative activities.

B. ODOT will use reasonable efforts to:

1. Attend and participate in periodic technical interchange meetings.
2. Share ODOT-supported Unmanned Aircraft System (UAS) flight test results.
3. Discuss potential future collaborative activities.

ARTICLE 3. SCHEDULE AND MILESTONES

The planned major milestones for the activities for this Annex defined in the "Responsibilities" Article are as follows:

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| 1. Both Parties to hold kickoff meeting jointly. | Within one (1) month of the effective date of |
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|  | Annex.   |
| 2. Both Parties to establish a joint communications plan.  | Within three (3) months of the effective date of Annex.    |
| 3. ODOT to provide collected data, including ODOT-supported UAS flight test results, and communications needs documentation to NASA. | Within two (2) months of the effective date of Annex.      |
| 4. NASA to provide documentation on a technical assessment of data services.   | Within eight (8) months of the effective date of Annex.    |
| 5. NASA to provide ATM-X CNS raw flight test data and analysis results to ODOT.  | Within fifteen (15) months of the effective date of Annex. |

#### ARTICLE 4. FINANCIAL OBLIGATIONS

There will be no transfer of funds between the Parties under this Agreement and each Party will fund its own participation. All activities under or pursuant to this Agreement are subject to the availability of funds, and no provision of this Agreement shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, (31 U.S.C. § 1341).

#### ARTICLE 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

A. Data produced under this Annex which is subject to paragraph C. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement will be protected for the period of two (2) years.

B. Under paragraph H. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement, Disclosing Party provides the following Data to Receiving Party. The lists below may not be comprehensive, are subject to change, and do not supersede any restrictive notice on the Data provided.

1. Background Data:

The Disclosing Party's Background Data, if any, will be identified in a separate technical document.

2. Third Party Proprietary Data:

The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate technical document.

3. Controlled Government Data:

The Disclosing Party's Controlled Government Data, if any, will be identified in a separate technical document.

4. The following software and related Data will be provided to ODOT under a separate Software Usage Agreement: None.

ARTICLE 6. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature below ("Effective Date") and shall remain in effect until the completion of all obligations of both Parties hereto, or two (2) years from the Effective Date, whichever comes first, unless such term exceeds the duration of the Umbrella Agreement. The term of this Annex shall not exceed the term of the Umbrella Agreement. The Annex automatically expires upon the expiration of the Umbrella Agreement.

ARTICLE 7. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Annex by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 8. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Annex.

Management Points of Contact

NASA

Dawn Emerson  
Director - Communications and Intelligent  
Systems  
Mail Suite: MS 54-2  
21000 Brookpark Road  
Cleveland, OH 44135  
Phone: 216-433-8901  
dawn.c.emerson@nasa.gov

Ohio Department of Transportation

Fred Judson  
UAS Director – Ohio UAS Center  
1980 West Broad Street  
Columbus, OH 43223-1102  
Phone: 419-373-4497  
fred.judson@dot.ohio.gov

Technical Points of Contact

NASA

Casey A. Bakula  
Research Engineer  
Mail Suite: 54-1  
21000 Brookpark Road  
Cleveland, OH 44135  
Phone: 216-433-2397  
casey.a.bakula@nasa.gov

Ohio Department of Transportation

Fred Judson  
UAS Director – Ohio UAS Center  
1980 West Broad Street  
Columbus, OH 43223-1102  
Phone: 419-373-4497  
fred.judson@dot.ohio.gov

ARTICLE 9. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized representative of NASA and the ODOT. Modification of an Annex does not modify the terms of the Umbrella Agreement.

ARTICLE 10. SIGNATORY AUTHORITY

The signatories to this Annex covenant and warrant that they have authority to execute this Annex. By signing below, the undersigned agrees to the above terms and conditions.

NATIONAL AERONAUTICS AND  
SPACE ADMINISTRATION  
GLENN RESEARCH CENTER

OHIO DEPARTMENT OF  
TRANSPORTATION

BY: \_\_\_\_\_  
James A. Kenyon, Ph.D.  
Center Director

BY: Jack Marchbanks /SG  
Jack Marchbanks  
Director

DATE: \_\_\_\_\_

DATE: 11/8/2022